

## **EDITED TASK LISTING**

### **CLASS: SENIOR MECHANICAL ENGINEER**

*NOTE: Each position within this classification may perform some or all of these tasks.*

1.	Designs, prepares and coordinates mechanical engineering drawings (e.g., heating, ventilating, air-conditioning (HVAC), refrigeration, plumbing, water supply and water purification systems, sanitary and drainage systems, and steam systems, etc.), specifications, and estimates in connection with the construction or maintenance of a variety of projects, including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures using various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) and building codes (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
2.	Performs technical design review on projects at various stages (e.g., Capitol Outlay Budget Change Proposal [COBCP], Budget Packages, preliminary plans, working drawings, project reports, etc.) completed by other entities (e.g., Department of General Services [DGS], private consultants, institutions plant operations, etc.) in order to ensure conformity to building codes, Department of Correction's [CDC] design criteria guidelines, and construction suitability utilizing personal technical knowledge and experience as needed and/or directed by immediate supervisor.
3.	Performs material take-off and cost estimates of mechanical work on a wide variety of projects (e.g., heating, ventilating, air-conditioning (HVAC), refrigeration, plumbing, water supply and water purification systems, sanitary and drainage systems, and steam systems, etc.), to establish costs using various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) and building codes (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
4.	Reviews purchase requisitions for construction work regarding mechanical and plumbing equipment for a wide variety of projects, including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures, etc. to ensure conformity to plans and specifications using personal experience, plans and specifications, as needed and/or directed by immediate supervisor.
5.	Performs inspections of mechanical engineering aspects of structures under construction and/or repair to ensure conformity to plans and specifications using personal experience, tape measures, plans, specifications, etc. as needed and/or directed by immediate supervisor.

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6.	Conducts specialized investigations and technical studies to produce complete and comprehensive written reports and correspondence making recommendations on mechanical engineering issues (e.g., heating, ventilating, air-conditioning (HVAC), refrigeration, plumbing, water supply and water purification systems, sanitary and drainage systems, and steam systems, etc.) using various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) and building codes, (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
7.	Provides mechanical engineering construction support (e.g., submittal review, shop drawing review, change order review, responses to requests for information, consultation with construction supervisors, etc.) to a wide variety of projects including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures, etc. to ensure conformity of plans and specifications using plans and specifications, personal experience, technical knowledge, building codes (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
8.	Performs field surveys of existing mechanical engineering conditions for various construction projects including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures, etc. to produce drawings, designs, and specifications using various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) as needed and/or directed by the immediate supervisor.
9.	Represents the department, in formal or informal settings, regarding mechanical engineering matters at meetings, conferences, hearings, legal depositions, etc. to obtain or provide information and/or represent the interest of the department utilizing interpersonal skills, professionalism, personal knowledge, etc. as needed and/or upon request.
10.	Accurately interpret and apply laws, rules, regulations, departmental policies and procedures, etc. regarding mechanical engineering issues in order to gain an understanding and apply as needed and/or upon request.
11.	Appropriately handle stressful situations in the work place, in a professional and tactful manner, with a goal of avoiding further escalation by utilizing effective interpersonal skills per departmental policies as needed.

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12.	Trains other engineers in the design of and preparation of mechanical aspects (e.g., heating, ventilation, and air-conditioning [HVAC], refrigeration, plumbing, sewage collection systems, water supply and water purification systems, drainage systems, and steam generating plants, etc.) of drawings, specifications, estimates, construction inspections and field surveys in connection with the construction or maintenance of a variety of engineering projects including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures utilizing various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) and building codes (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
13.	Performs value engineering (cost saving analysis) on mechanical aspects of various projects including institutional and office buildings, roads, pumping plants, substations, radio stations, and similar structures to produce a report suggesting ways to reduce costs utilizing various resources (e.g., various computer hardware and software, hand drafting tools, personal experience, etc.) and building codes (e.g., California Building Code [CBC], National Fire Protection Association [NFPA], etc.) as needed and/or directed by immediate supervisor.
14.	Reports current project status to supervisor to update him or her on weekly basis using personal experience (e.g., time estimate skills, knowledge of prior project history, etc.) and technical knowledge.
15.	Manages projects contracted to outside architects and engineers to produce code compliant and departmental design criteria guidelines compliant plans, specifications and studies using management skills, negotiation skills, personal experience, and technical knowledge, etc. as needed and/or directed by supervisor.
16.	Acts in the absence of supervisor to ensure continued efficient operation of the mechanical engineering unit using various resources (e.g., personal experience and knowledge, etc.) as needed and/or directed by immediate supervisor.
17.	Reviews other mechanical engineers' plans, specifications, reports in order to ensure conformity to building codes, CDC design criteria guidelines, construction suitability using personal technical knowledge and experience as needed and/or directed by immediate supervisor.